



Aviation Maintenance ATRB Coordinating Team (AMACT)

29 July 2003

N78 Naval Aviation S&T Action Group
 (NALG WG's: Common Avionics, Manpower/Trng, Carriers, Strike,
 Maritime Surveillance, Amphibious Ops, Maintenance)
 Future Naval Capabilities

Transition Opportunity Board (TOB)
 (PEO(A), PEO(T), PEO(W), JSF, 1.0, 3.0, 6.0, 8.0)

N75	N76	N77
N4	N6	N2

AIR 1.0

PEO (A)

PEO (T)

JSF

PEO (W)

Training ATRB

PMA-205 PMA-248
PMA-273

Carrier ATRB

PMA-251 PMS-312

Common Systems ATRB

PMW-156 PMA-202
PMA-209 PMA-213

Air ASW ATRB

PMA-264 PMA-290
PMA-299

Assault ATRB

PMA-257 PMA-261
PMA-271 PMA-275
PMA-276

Strike Platforms ATRB

PMA-231 PMA-234 JSF
PMA-241 PMA-265 UCAV
PMA-272 PMA-257

JSTAB

JSF

UAV ATRB

PMA-263

Weapons ATRB

PMA-201 PMA-259
PMA-242 PMA-280
PMA-281 PMA-282

italics

Proposed

AIR- 3.0/6.0
ALL PMAs

AVIATION MAINTENANCE ATRB COORDINATING TEAM (AMACT)

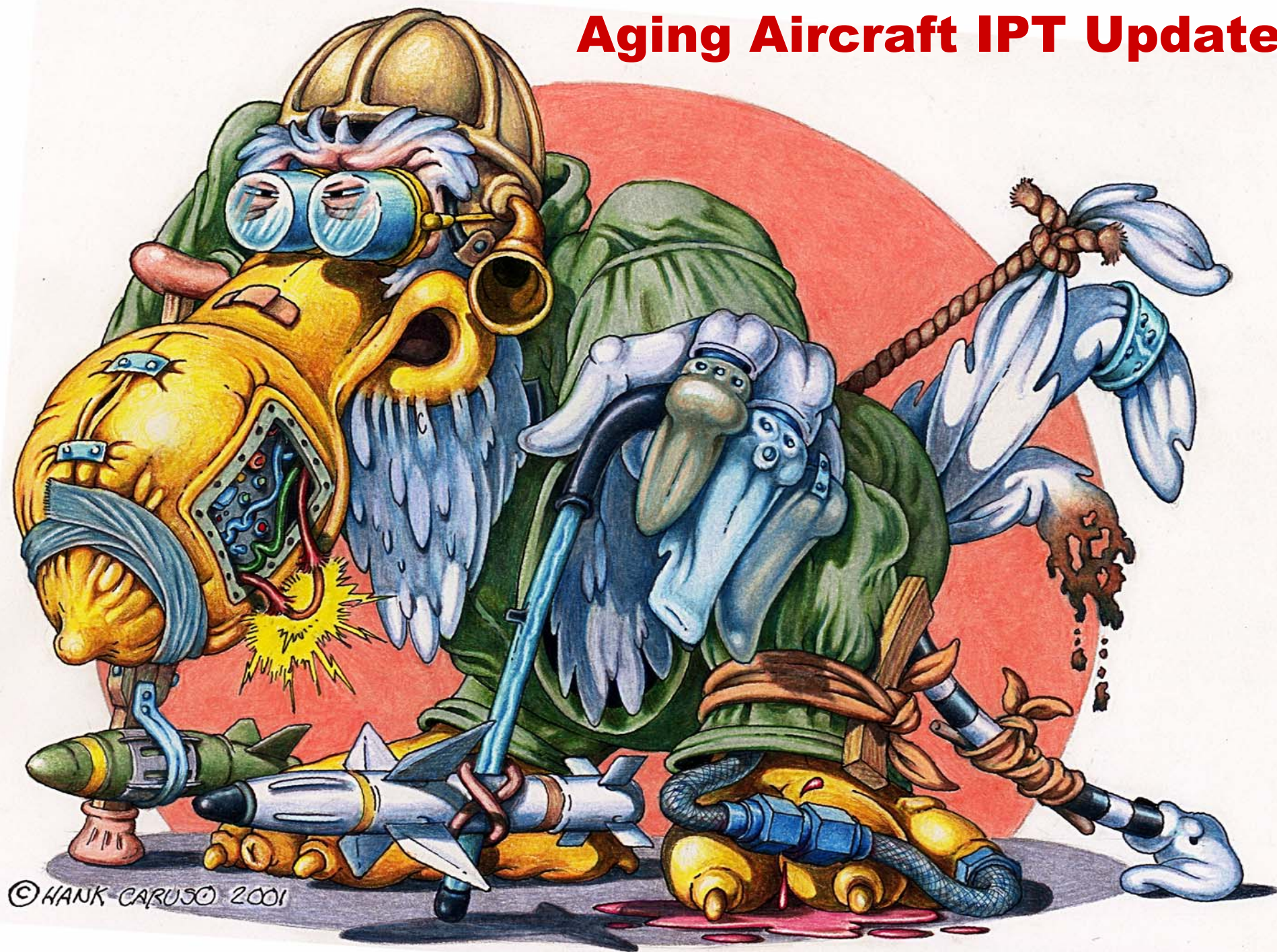
AMACT

WE PROVIDE A LINK
BETWEEN THE ATRB's AND
COMMON TECHNOLOGY
SOLUTIONS.

HOW WE DO IT

- Review PMA identified *common* needs across platforms
 - Advanced Tech Review Board (ATRB) call letter
- Identify an existing technology solution/source
 - Aging Aircraft IPT
 - Lead Maintenance Technology Centers (LMTC)
- Review technology solutions
 - Assess Technology Readiness Level (TRL)
- Influence transition planning
 - N78 Naval Aviation Plan (NAP)
 - AAIPT Enabling Technologies
 - LMTC (General Series Manuals-Tech Support)
 - NAMP Policy/program support (AIR-3.2D)

Aging Aircraft IPT Update



Naval Aviation Cost Drivers

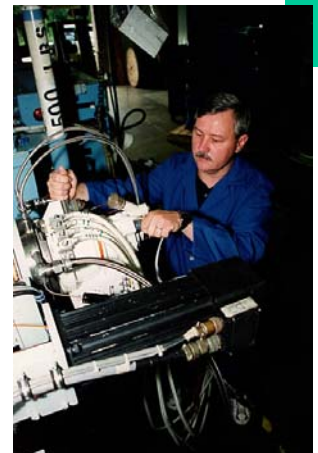
"Firestarters"



		"O" LEVEL	"I" LEVEL	AVDLR
I	INSPECTIONS	23-47%		
	CORROSION PREVENTION	3-20%		
	AIRFRAME	8-12%	3-6%	2-6%
II	WIRING	2-7%	5-7%	
III	AVIONICS: RADAR/NAV		2-17%	4-37%
	AVIONICS: BOMB/WPN CTRL		18-33%	10-40%
IV	PROPULSION	2-9%	15-30%	10-15%
V	DYNAMIC COMPONENTS	10-16%	10-30%	10-45%

Propulsion
is
addressed
by CIP

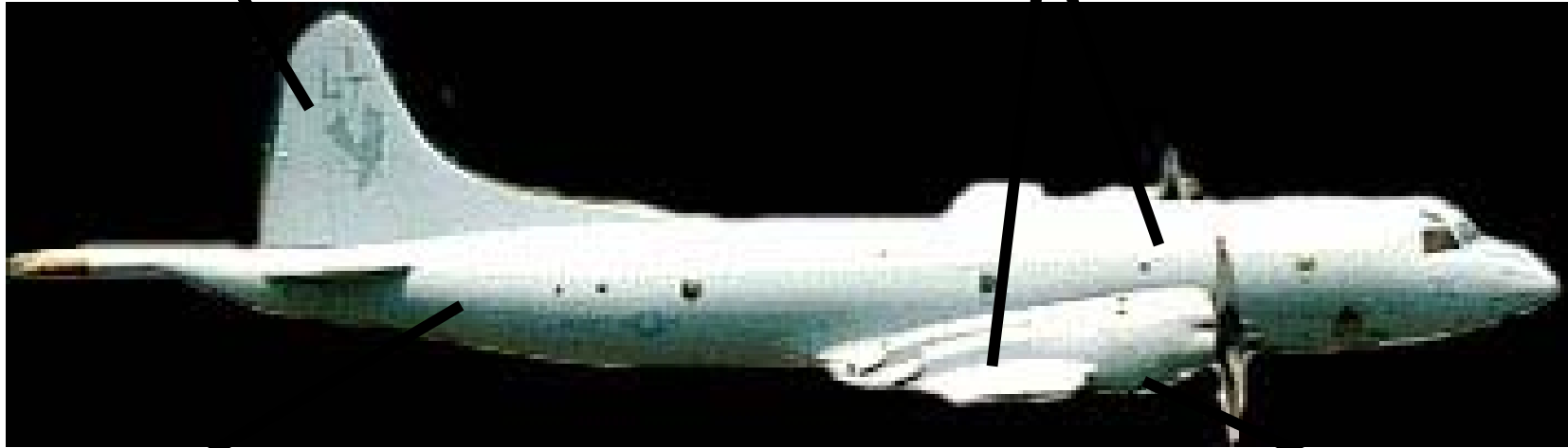
RED >7% 6.99%>YELLOW>4%



Corrosion

Control Surfaces
(New honeycomb, PAA)

Wings/Exterior
(Thick Film)



Deep Zonal
(Aerosol)

Inaccessible
(Sensors)

- 1. Map compound/material to application**
- 2. Coordinate procurement**
- 3. Supply**

- 4. Pubs**
- 5. Training**

Wiring & Power

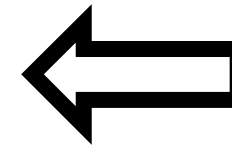
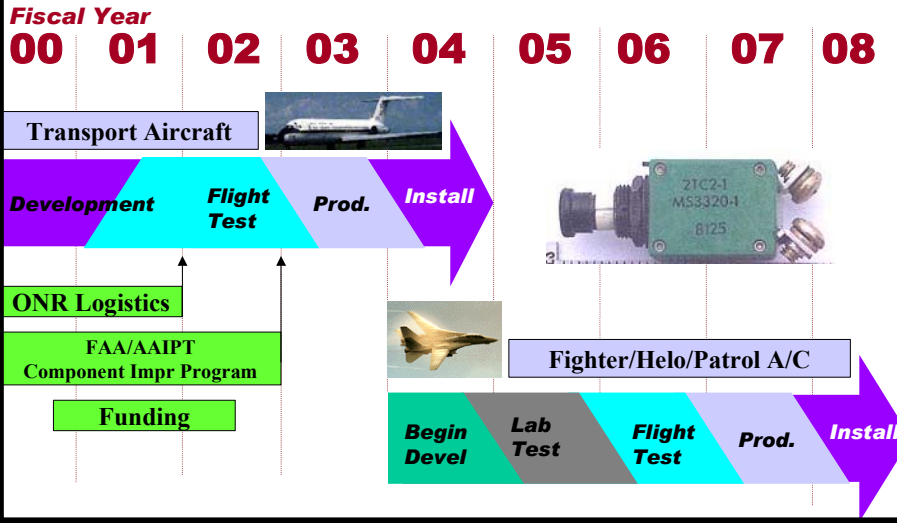


Large Safety/ Readiness Impact

- *One of top 2 causes for downtime*

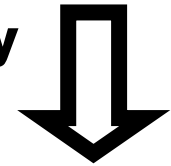
Integrated Wiring Strategy

Arc Fault Circuit Breaker Developmental Timeline

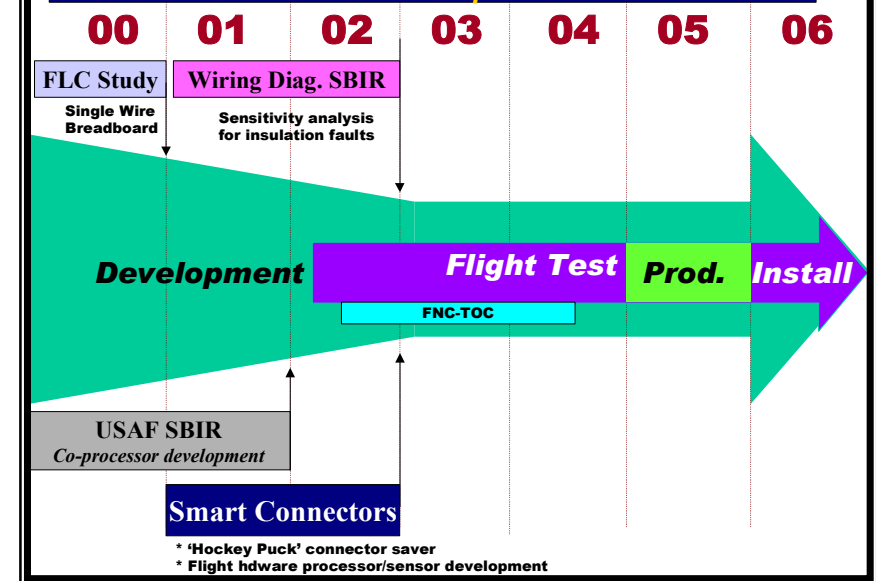


**Eliminates
Kapton
Wiring Fires**

**Ultimate prognostic
capability**



"Smart Wire" Developmental Timeline



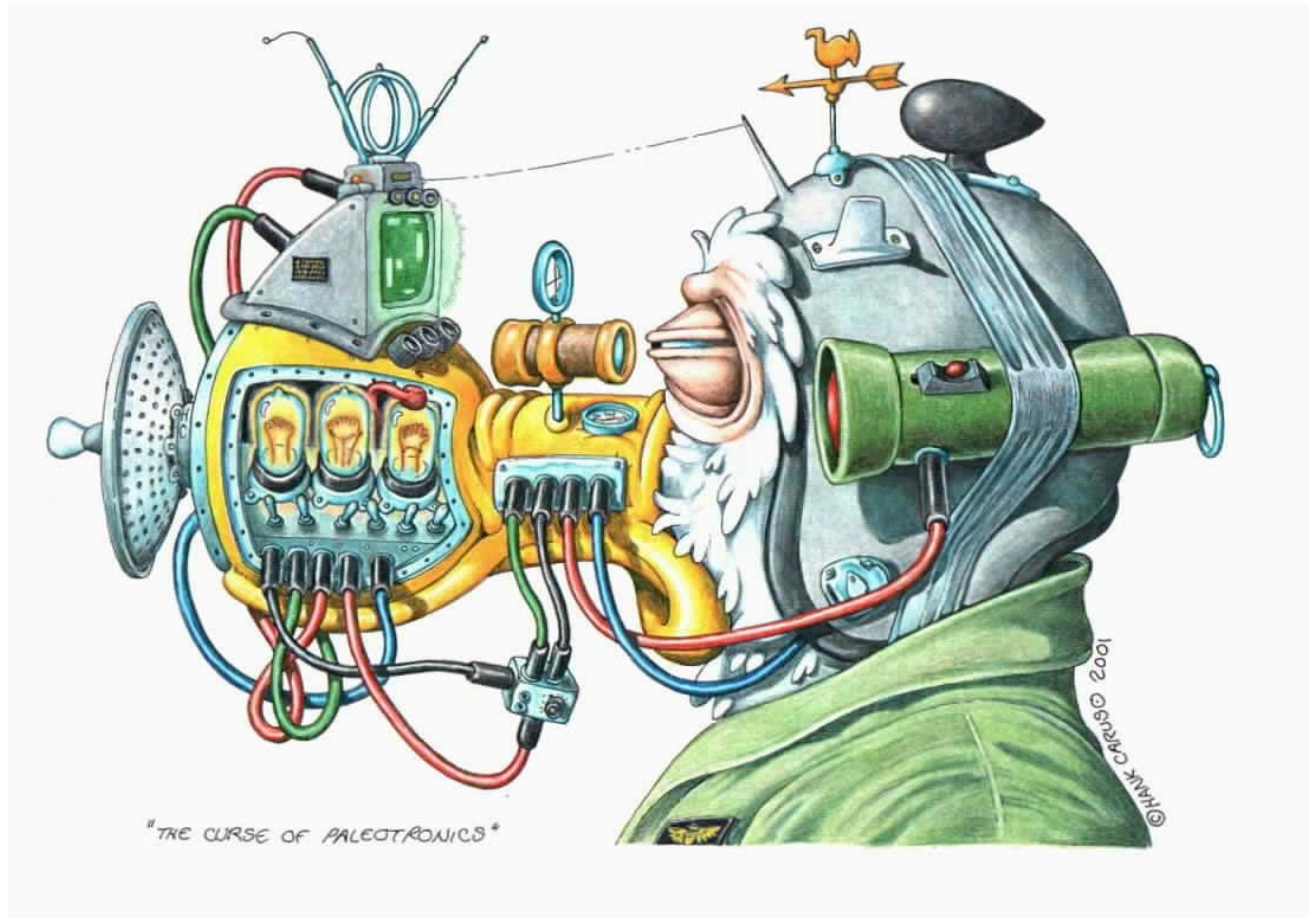
On/Off-board Unit

- On-board unit provides data to mission computer on state of wiring harness
- Off-board unit included in maintenance support equipment
- Both units will be implemented within existing maintenance system.



➤ **New Technology for
Legacy Platforms**

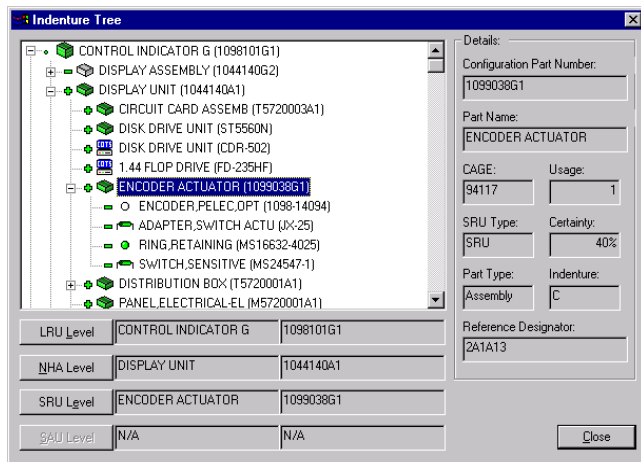
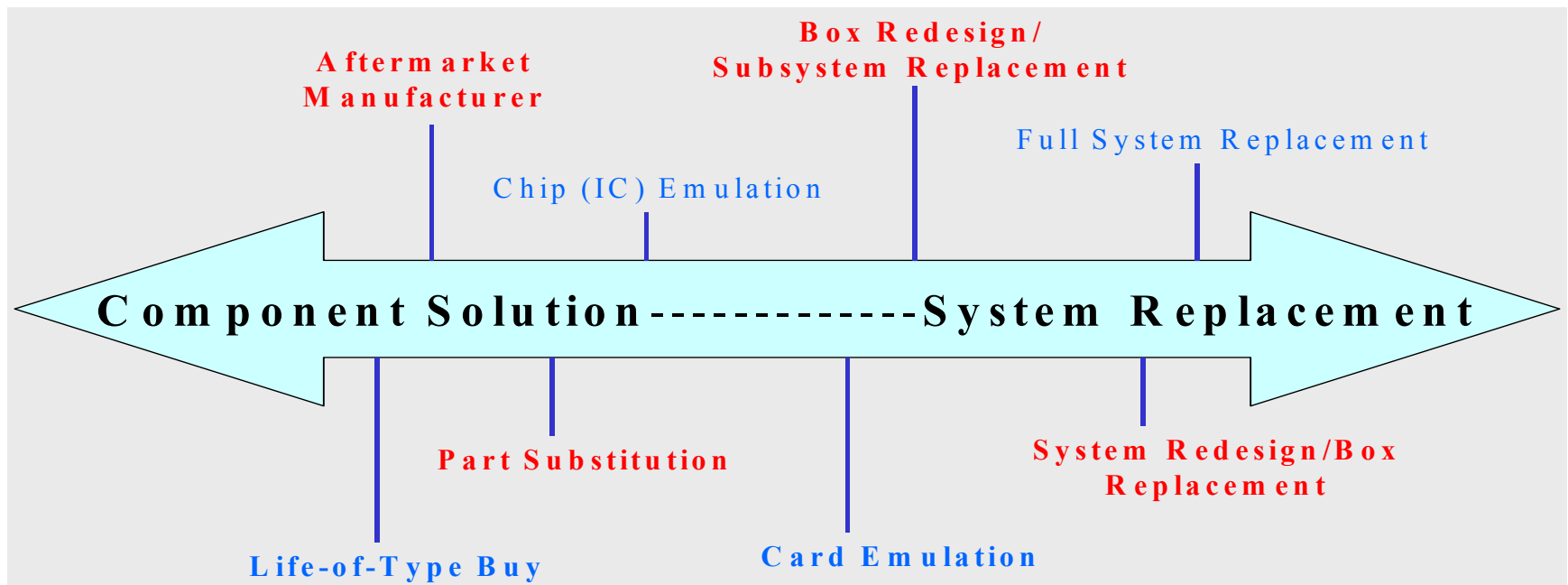
Avionics



Managing Obsolescence

- ***Business Case Analysis/Toolsets***
- ***Solving Obsolescence, Reliability and Performance***

Near Term Solutions – Avionics Obs.



- **Immediate Cost Savings/Avoidance**
- **Obsolescence Process/Decision Toolset**
 - **Collaborative Effort**



Lead Maintenance Technology Center

Lead Maintenance Technology Centers

- Leadership responsibility for a technology area
- Cross platform maintenance practice topics
- Actively responds to Naval and Marine Corps aviation maintenance and technology questions
- Improves fleet maintenance practices (reduce O&S)
- Integrates engineering, logistics and fleet needs

Lead Maintenance Technology Centers

12 of 29 LMTC's support OPNAVINST 4790.2 programs

Airborne Weapons and Targets Maintenance and Handling
Aviation Gas Free Engineering
Corrosion Prevention/Control
Electrical/Electronic Assemblies/Electrostatic Discharge
Fluid Contamination
Fuels/Lubricants
Nondestructive Testing/Inspection
Paint/Organic Coatings
Preservation
Tires
Vibration Analysis
Welding/Brazing

Lead Maintenance Technology Centers

ADDITIONAL LMTC TECHNOLOGY AREAS

Adhesive Bonding

Aircraft Wiring

Airborne Weapons Materials

Bearings

Canopies/Transparencies

Composite Repair

Elastomeric Materials

Engine Blade/Vane Repair

Electrochemical Power Systems (Batteries)

Engine Composites

Failure Analysis

Heat Damage Evaluation

Heat Treating

Inorganic Coatings

Materials Testing

Thermal Spray

Tribology

Lead Maintenance Technology Centers

LMTC Web Site

(<https://www.nalda.navy.mil/lmtc>)



QUESTIONS..?

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